

Claims

1. An ultrasound signal tracking method comprising selecting signals from a first subset of resonators chosen from a plurality of resonators forming a transducer array and subsequently selecting signals from a second subset of the plurality of resonators responsive to a comparison between returns received at one or more resonators in the first subset with returns received at one or more resonators in the second subset.
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2. An ultrasound signal tracking method comprising selecting a first subset of resonators from a plurality of resonators forming a transducer array such that elements of said first subset are in a predetermined physical arrangement relative to a first resonator receiving a return meeting a predetermined condition, and monitoring returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by a second resonator in said subset other than said first resonator, a second subset of resonators is selected in a predetermined physical arrangement relative to said second resonator.
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3. A method as claimed in Claim 2, wherein said predetermined condition is a return of signal strength greater than the returns received by said other resonators in said subset.
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- 20 4. A method as claimed in Claim 2, wherein said predetermined condition is a correlation coefficient greater than the correlation coefficient from said other resonators in said subset, when correlated with a stored reference signal.
5. A method as claimed in any preceding claim, wherein said second subset differs from said first subset.
- 25 6. A method as claimed in any preceding claim, wherein said second subset includes at least some resonators included in said first subset.
7. A method as claimed in any preceding claim, wherein said second subset includes said first resonator.
8. A method as claimed in any preceding claim in which said second subset is centred upon said second resonator.
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9. A method as claimed in any preceding claim, wherein at least one of said first and said second subsets comprises an hexagonal arrangement of six resonators centred around a single seventh resonator.
10. A method as claimed in any preceding claim, wherein both of said first and said second subsets comprises an hexagonal arrangement of six resonators centred on a single seventh resonator.
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11. A method according to any preceding claim in which selection of the second subset is automated.
12. A method according to any one of claims 1-11 in which selection of the second subset is effected manually.
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13. A method according to any preceding claim in which the plurality of resonators forming the transducer array are regularly arranged.
14. A method according to any preceding claim in which the plurality of resonators forming the transducer array are arranged in a regular hexagonal arrangement.
15. 15. A method according to any preceding claim further comprising performing phase comparison to obtain directional Doppler information.
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16. A method according to any preceding claim further comprising performing depth selection.
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17. An ultrasound transducer arranged to perform the method of any preceding claim.
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18. An ultrasound transducer according to claim 17 comprising a plurality of resonators and a switch operable in response to instructions from a controller to select subsets of said resonators, said controller being operable to select a first subset of resonators from said plurality of resonators such that said first subset is centred on a resonator receiving a return meeting a predetermined condition, said controller being further operable to monitor returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by another resonator in said subset other than that on which the subset is centred, said switch is instructed to select a second, different subset of resonators centred on said another resonator.
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19. A transducer as claimed in claims 18, in which the resonators are operable at a plurality of frequencies, and said controller is operable to select for a given frequency, respective first and second subsets of resonators for operation.
20. A transducer as claimed in any one of claims 17-19, wherein the resonators are arranged on a convex surface.
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21. A transducer as claimed in any one of claims 17-19, wherein the resonators are arranged at differing angles across a substantially flat surface.
22. A transducer as claimed in any one of claims 17-21, wherein the resonators in said first and said second subsets differ.
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23. An ultrasound transducer system arranged to perform the method of any one of claims 1-16.
24. An ultrasound transducer system according to claim 23 comprising a transducer in accordance with any one of Claims 17-22, wherein a signal from the transducer provides an output signal to a monitor connectable in use thereto, the output signal being derived from the resonator based upon which the subset of resonators was selected.
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25. A system as claimed in Claim 24, wherein the output signal is a directional Doppler signal.
26. A system as claimed in any one of claims 24-25, wherein the output signal is maximised through the application of range gating to the output signals of the subset of resonators.
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27. A system as claimed in any one of Claims 22-26, wherein the transducer is wirelessly connected to the monitor.